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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,618	01/20/2005	Joshua Elliott	NZ002	1871
7590 Unisys Corporation Unisys Way M/S E8-114 Blue Bell, PA 19424-0001			EXAMINER DUONG, THOI V	
			ART UNIT 2871	PAPER NUMBER
			MAIL DATE 12/03/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/524,618

**Applicant(s)**

ELLIOTT, JOSHUA

**Examiner**

THOI V. DUONG

**Art Unit**

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is in response to the Amendment filed August 15, 2008.

Accordingly, claims 1 and 12 were amended. Currently, claims 1-12 are pending in this application.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatani et al. (Nagatani, US 5,764,845) in view of McCartney, Jr. (US 5,311,337).

Re claim 1, as shown in Figs. 1, 2, 4, 15 and 16, Nagatani discloses an imaging screen having an array of light sensitive pixel devices 86 (LCD panel); and an optical layer having an array of light guides 10, each light guide 10 having an input end 12 and an output end 14, the input ends 12 being arranged in a second lattice pattern (corresponding to the openings 24 in Fig. 16), and the output ends being directed towards the pixel devices 86 whereby the light guides 10 guide light from their input ends 12 to their output ends 14 and onto the pixel devices.

However, Nagatani does not disclose that the array of light sensitive pixel devices is arranged in a first lattice pattern.

As shown in Fig. 1, McCartney discloses a display comprising an array of light sensitive pixel devices 10 (subpixels) arranged in a lattice pattern (grid pattern) (col. 3, lines 31-55).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the imaging screen of Nagatani with the teaching of McCartney by having an array of light sensitive pixel devices arranged in a lattice pattern in order to permit addressing select lines to run in straight lines between subpixels and to realize full color images (col. 1, lines 23-31).

Accordingly, it is obvious that the second lattice pattern of the input ends 12 shown in Fig. 16 of Nagatani is different to the first lattice pattern.

Re claim 2, as shown in Fig. 1B of Nagatani, the light guides 10 have light reflecting walls which each guide light towards a respective pixel device.

Re claim 3, the second lattice pattern of the input ends 12 corresponding to the openings 24 shown in Fig. 16 of Nagatani is a hexagonal lattice pattern.

Re claim 4, the first lattice pattern is a rectangular lattice pattern as shown in Fig. 1 of McCartney and the second lattice pattern is a hexagonal lattice pattern as shown in Fig. 16 of Nagatani.

Re claim 5, the first end 12 of each light guide 10 has a first shape, and the second end 14 of each light guide 10 has a second shape as shown in Figs. 2A and 2B of Nagatani,

wherein, re claim 6, the second shape 14 is substantially hexagonal; and

wherein, re claim 7, one of the shapes is substantially hexagonal and the other shape is substantially rectangular.

Re claim 8, the optical layer 10 physically engages the pixel devices as shown in Fig. 26.

5. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagatani et al. (Nagatani, US 5,764,845) in view of McCartney, Jr. (US 5,311,337) as applied to claims 1-8 above, and further in view of Surati et al. (Surati, US 6,456,339 B1) and Thomas et al. (Thomas, US 6,978,409 B2).

Nagatani as modified in view of McCartney discloses an imaging device that is basically the same as that recited in claims 9 and 10 except for a screen, an output interface for receiving image data from the light sensitive pixel devices and a resampler programmed to receive the image data from the output interface.

As shown in Fig. 13A, Surati discloses an imaging device comprising a screen 411, an input image 401 (Applicant's output interface) and a resampler 403 programmed to receive the image data from the output interface, resample the image data, and output the resampled image data (see also Fig. 8, col. 15, lines 6-19; and col. 21, lines 10-19).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the imaging device of Nagatani with the teaching of Surati by providing a screen, an output interface for receiving image data from the light sensitive pixel devices and a resampler programmed to receive the image data

from the output interface in order to correct pixel distortion or misalignment of projected overlapping pixel arrays (see Abstract and col. 6, lines 38-46).

However, Surati is silent about resampling the image data into format compatible with a different lattice pattern. Thomas suggest a method for processing a display image comprising resampling the resulting images data to provide pixel data (regular pixel lattice) at locations corresponding to the positions of the lenses (microlens lattice) so as to obtain higher quality images (col. 7, line 61 through col. 8, line 22).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the display device of Nagatani with the teaching of Thomas by resampling the image data into format compatible with a different lattice pattern in order to obtain higher quality images (col. 8, lines 17-22).

Re claim 11, it is well known in the art that an imaging device such as liquid crystal display device can be made as hand-held and portable.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kijima (US 6,567,594 B2) in view of Thomas et al. (Thomas, US 6,798,409 B2).

As shown in Figs. 5-7, Kijima discloses an EL device including an array of pixel devices 17 arranged in a first lattice pattern (squared); and an optical layer 20A having an array of light guides (17, 18, 19, 29), each light guide having a input end (top end in Figs. 6A. 6B and 7) and an output end (bottom end in Figs. 6A.6B and 7), the output ends being arranged in a second lattice pattern (hexagonal pattern in Fig. 7) different to the first lattice pattern, and the input ends being directed towards the pixel devices 17

whereby the light guides guide light from the pixel devices 17 from their input ends to their output ends (col. 13, lines 3-8).

Kijima also discloses that the array of light guides maybe used not only for the EL device but also for other optical devices such as an LCD (col. 13, lines 9-11). Accordingly, it is obvious that the LCD includes a display screen.

However, Kijima does not disclose a screen drive as well as a resampler.

As shown in Fig. 2, Thomas suggests a method for processing a display image comprising: using orthographics cameras to generate images on a regular pixel lattice under each lens and resampling the resulting images data to provide pixel data (regular pixel lattice) at locations corresponding to the positions of the lenses (microlens lattice) so as to obtain higher quality images (col. 7, line 61 through col. 8, line 22).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the display device of Kijima with the teaching of Thomas by providing a screen drive for driving the pixel devices in accordance with a set of image data, and a resampler programmed to receive image data in a format compatible with the first lattice pattern, resample the image data into a format compatible with the second lattice pattern and output the resampled image data to the screen drive in order to obtain higher quality images (col. 8, lines 17-22).

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

/Thoi V. Duong/ - Primary Examiner

December 01, 2008